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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/009,199	04/05/2002	Monique Thual	136.166	8176

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EXAMINER

LIN, TINA M

ART UNIT PAPER NUMBER

2874

DATE MAILED: 11/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/009,199	THUAL ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Tina M Lin	2874	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☐ Responsive to communication(s) filed on \_\_\_\_.

2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) 1-4 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.

5) ☐ Claim(s) \_\_\_\_ is/are allowed.

6) ☒ Claim(s) 1, 3, and 4 is/are rejected.

7) ☒ Claim(s) 2 is/are objected to.

8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Appication Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on 05 April 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All    b) ☐ Some    c) ☐ None of:

1) ☒ Certified copies of the priority documents have been received.

2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.

3) ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 201.

4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: \_\_\_\_\_

Receipt from the International Bureau is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d) in this national stage application, which papers have been placed of record in the file.

#### **DETAILED ACTION**

##### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. Patent 5,563,969 to Honmou. Honmou discloses an array of optical fibers heated collectively by an electric arc created by a pair of electrodes. Furthermore, from Figure 3, it can be observed that the hottest points of the electric arc are parallel with the plane in which the fibers are situated. By the collective heating of the optical fiber ends to create microlenses, the ends of the fibers are homogeneously and simultaneously heated.

##### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,563,969 to Honmou as applied to claim 1 above. Honmou discloses all discussed above, and

further discloses the fibers in the array are single mode or monomode fibers. But Honmou fails to disclose the set of optical fibers to consist of a ribbon and the end of the fiber where the microlenses is produced to have a graded index. However, Honmou discloses an array of fibers, both monomode and multimode. Arrays of fibers typically form an optical fiber ribbon.

Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have used a ribbon in an array of optical fibers. Additionally, Honmou does not disclose in detail the properties of the monofibers, which the microlenses are being formed on. However, graded indexed fibers are commonly used fibers to alter properties of the signal passing through the fiber. By creating a microlens on the end of the fiber, the signal is also changed. Therefore, in order to obtain the desired output of the microlensed fiber, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have used a graded index fiber end with a microlens.

***Allowable Subject Matter***

Claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of record fails to disclose or reasonably suggest placing the optical fibers a distance between 850 micrometers and 950 micrometers away in order to maintain an improved hemispherical shape and to also maintain the diameter of the fibers. The closest prior art of record is U.S. Patent 5,563,969 to Honmou. Honmou discloses an array of optical fibers heated collectively by an electric arc created by a pair of electrodes. Furthermore, the hottest points of the electric arc are parallel with the plane in which the fibers are situated. Honmou does show in Figure 3, where the ends of the fibers appear to be at the hottest axis

points and not a distance between 850 micrometers and 950 micrometers away. Furthermore, U.S. Patent 5,595,669 to Le Bris also discloses an array of parallel optical fibers ends heated by an electric arc. Although the fiber plane and the hottest axis points of the electric arc parallel, LeBris also teaches moving each fiber one at a time through the hottest axis points of the electric arc.

The documents submitted by applicant in the Information Disclosure Statement have been considered and made of record. Note attached copy of form PTO-1449. The documents disclosed by Applicant fail to disclose or reasonably suggest the novel and allowed subject matter discussed above.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References B and C discuss other methods of forming microlenses using an electric arc, but fail to disclose or reasonably suggest the novel and allowed subject matter discussed above.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(c), (f) or (g) prior art under 35 U.S.C. 103(a).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tina M Lin whose telephone number is (703) 305-1959. The examiner can normally be reached on Monday-Friday 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (703) 308-4819. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

TML

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John D. Lee  
Primary Examiner